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**From:** Lunn, Ruth (NIH/NIEHS) [E] [lunn@niehs.nih.gov]  
**Sent:** 8/8/2014 3:17:52 PM  
**To:** Huff, James (NIH/NIEHS) [G] [huff1@niehs.nih.gov]; Dana Loomis [LoomisD@iarc.fr]; Neela Guha [guhan@iarc.fr]; kmb@sciencecorps.org; Kathryn Guyton [GuytonK@iarc.fr]; Cooper, Glinda [Cooper.Glinda@epa.gov]; Cogliano, Vincent [cogliano.vincent@epa.gov]  
**Subject:** NAS link for formaldehyde  
**Attachments:** image003.jpg

Here is the brief release NAS has on their website about the formaldehyde report.

<http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=18948>

[News from the National Academies]

FOR IMMEDIATE RELEASE

Formaldehyde Confirmed as Known Human Carcinogen

A new report<[http://www.nap.edu/catalog.php?record\\_id=18948](http://www.nap.edu/catalog.php?record_id=18948)> from the National Research Council has upheld the listing of formaldehyde as “known to be a human carcinogen” in the National Toxicology Program 12th Report on Carcinogens (RoC). The committee that wrote the Research Council report found that the listing is supported by sufficient evidence from human studies that indicate a causal relationship between exposure to the chemical and at least one type of human cancer. The committee reached the same conclusion after conducting both a peer review of the RoC and an independent assessment of the formaldehyde literature.

The NTP is an interagency program that produces the RoC. Formaldehyde is a substance of interest for the RoC because many people in the United States are exposed, either through environmental sources such as combustion processes and tobacco smoke, or in occupational settings that include the furniture, textile, and construction industries. Formaldehyde is also produced naturally by human cells. It was first listed by NTP as “reasonably anticipated to be a human carcinogen” in 1981 before being upgraded to “known carcinogen” in the 2011 RoC.

Based on RoC listing criteria, a substance can be classified as known to be a human carcinogen if there is sufficient evidence of carcinogenicity from studies in humans that indicate a causal relationship between exposure to the substance and human cancer. In its peer review of the RoC, the Research Council committee found that NTP described the strengths and weaknesses of relevant studies in a way that was consistent and balanced, but noted that it would be more complete if it also discussed why weaker evidence did not alter the conclusion.

In addition, NTP did not include a description of its interpretation of “limited” and “sufficient” evidence for human studies, which factors into whether a chemical is listed as reasonably anticipated to be or known to be a human carcinogen. The Research Council committee defined “limited evidence” in humans to be two or more studies of varied design that suggest an association between formaldehyde and a specific type of cancer but that cannot exclude alternative explanations such as chance, bias, or confounding factors. Evidence was deemed to be “sufficient” if those alternative explanations could be ruled out with confidence. On this basis, the committee agreed that there is sufficient evidence to support an association between formaldehyde and cancer in humans.

In its independent assessment, the committee considered human, animal, and mechanistic studies published through November 8, 2013 that focused on nasopharyngeal cancer, sinonasal cancer, and myeloid leukemia. It found sufficient evidence of carcinogenicity in human and animal studies and “convincing relevant information” that formaldehyde induces mechanistic events associated with the development of cancer in humans. Based on these findings, the committee concluded that formaldehyde should be listed in the RoC as “known to be a human carcinogen.”

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Pre-publication copies of Review of the Formaldehyde Assessment in the National Toxicology Program 12th Report on Carcinogens<[http://www.nap.edu/catalog.php?record\\_id=18948](http://www.nap.edu/catalog.php?record_id=18948)> available from the National Academies Press on the Internet at [www.nap.edu](http://www.nap.edu)<<http://www.nap.edu>> or by calling 202-334-3313 or 1-800-624-6242. Reporters may obtain a copy from the Office of News and Public Information (contacts listed above).

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Division on Earth and Life Studies  
Board on Environmental Studies and Toxicology

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